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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/708,217

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Robert Geary

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05/26/2009

BRANDON N. SKLAR, ESQ. (PATENT PROSECUTION)

KAYE SCHOLER, LLP

425 PARK AVENUE

NEW YORK, NY 10022-3598

EXAMINER

PATEL, NIHIR B

ART UNIT

PAPER NUMBER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/708,217	Applicant(s) GEARY, ROBERT	
	Examiner NIHIR PATEL	Art Unit 3772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/26/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on March 5th, 2009 have been fully considered but they are not persuasive. In reference to claims 1 and 2, the applicant argues that the currently amended limitation "increasing atmospheric oxygen concentration within an occupant cabin to greater than eighty percent of that which is experienced at standard sea level atmospheric pressure" is not disclosed, taught or suggested in any of the references of record, or any appropriate combination thereof. The applicant states that paragraph 6 of the disclosure recites this limitation. First the examiner would like to point out that paragraph 6 recites "Current pressurization systems maintain cabin air pressures between 74-80% of the standard sea level atmospheric pressure not greater than 80% as claimed in claims 1 and 2. No where in the applicant's specification does it state that "increasing atmospheric oxygen concentration within an occupant cabin to greater than eighty percent of that which is experienced at standard sea level atmospheric pressure" as recited in claims 1 and 2. The Mitani clearly states that "this makes it possible to maintain oxygen concentration at a level enough for passengers in the pressurized chamber to spend comfortably" (see paragraphs [0009] and [0021]. Inherently the word comfortably implies that there is greater than 80% of oxygen concentration of that which is experienced at standard sea level atmospheric pressure to decrease deep vein thrombosis occurrence.

In reference to claims 3 and 8, the applicant argues that the currently amended limitation "non habitable region to which the high concentration nitrogen is dispensed is outside the fuel tank" is not disclosed, taught or suggested in any of the references of record, or any appropriate combination thereof. The examiner disagrees. No where in the applicant's specification does it

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state that "non habitable region to which the high concentration nitrogen is dispensed is outside the fuel tank" as recited in claim 3. In reference to claims 4 and 5, the applicant argues that Mitani does not disclose "continuously detecting absolute pressure and oxygen percentage in areas of the aircraft, computing partial pressure of oxygen in those areas and reporting the resulting partial pressure of oxygen values to a central control system". The examiner disagrees with the applicant's argument. In order to maintain oxygen concentration at a level enough for passengers in the cabin to spend time comfortably it is inherent that the environment control unit continuously detect absolute pressure and oxygen percentage in areas of the aircraft, computing partial pressure of oxygen in those areas and report the resulting partial pressure of oxygen values to a central control system (environment control unit).

In reference to claims 6 and 7, the applicant argues that it would be highly undesirable to mix nitrogen from the aircraft fuel tank into the passenger cabin. The examiner disagrees with the applicant's argument. Mitani never teaches mixing nitrogen from the aircraft fuel tank into the passenger cabin. Paragraph [0020] recites "The nitrogen that does not permeate the selectively permeable membrane is introduced into a fuel tank as air enriched with nitrogen and overflow air enriched with nitrogen is discharged out of the airplane" indicating that nitrogen not permeating the permeable membrane is discharged out of the airplane not into the passenger cabin.

Response to Amendment

2. The examiner acknowledges the amendment filed on March 5th, 2009. The amendment comprises amending claims 1-10 and adding new claims 11-20.

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Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims **1-3 and 11-15** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims contains subject matter specifically **"...to greater than eighty percent of that which is experienced at standard sea level atmosphere pressure" and "outside the fuel tank"**, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Claim Rejections - 35 USC § 102/103

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim **1** is rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mitani (US 2002/0162915) in view of Radowitz (Bottled oxygen could protect against blood cloths; Irish Examiner.com).

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7. **As to claim 1 rejected under 35 U.S.C. 102(e)**, Mitani teaches a method of increasing atmospheric oxygen concentration within an occupant cabin to greater than eighty percent of that which is experienced at standard sea level atmosphere pressure (**see page 2 paragraphs [0020], [0021] and response to arguments above**). Therefore inherently decreasing deep vein thrombosis occurrence.

8. **As to claim 1 rejected under 35 U.S.C. 103(a) Mitani in view of Radowitz**, Mitani discloses the teaching of increasing atmospheric oxygen concentration within an occupant cabin to greater than eighty percent of that which is experienced at standard sea level atmosphere pressure (**see page 2 paragraphs [0020], [0021] and response to arguments above**) but fails to mention that increasing atmospheric oxygen concentration within an occupant cabin also decreases the occurrence of deep vein thrombosis. The article by Radowitz states that by increasing the concentration of oxygen the occurrence of deep vein thrombosis decreases. Therefore it would have been obvious to one in the ordinary skill of the art to increase atmospheric oxygen concentration within an occupant cabin thereby decreasing the occurrence of deep vein thrombosis in order to prevent the occurrence of pulmonary embolism.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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10. Claims **2-5, 8, 9 and 11-20** are rejected under 35 U.S.C. 102(e) as being anticipated by Mitani (US 2002/0162915).

11. **As to claim 2**, Mitani teaches a method step comprising separating oxygen from ambient air onboard an aircraft thereby establishing a high concentration oxygen supply; dispensing high concentration oxygen from the supply to an occupant cabin of the aircraft thereby increasing the level of oxygen concentration within the cabin to a level greater than eighty percent of that which is experienced at standard sea level atmosphere pressure (**see page 2 paragraphs [0020], [0021] and response to arguments above**).

12. **As to claim 3**, Mitani teaches a method step comprising separating nitrogen from ambient air onboard an aircraft thereby establishing a high-concentration nitrogen supply; dispensing high concentration nitrogen from the supply to fire susceptible, non habitable region outside the fuel tank of the aircraft thereby decreasing the capability for the atmospheric therein to support combustion (**see page 2 paragraph [0020] and response to arguments above**).

13. **As to claim 4**, Mitani teaches a method step comprising continuously detecting absolute pressure and oxygen percentage in areas of the aircraft, computing partial pressure of oxygen in those areas and reporting the resulting partial pressure of oxygen values to a central control system (**see page 2 paragraphs [0019], [0020] and [0021]**).

14. **As to claim 5**, Mitani teaches a method step comprising continuously reconfiguring the system pressures and flows in response to reported partial pressure of oxygen values, flight parameters, aircraft configuration and smoke/fire warning status (**see page 2 paragraph [0024]**).

15. **As to claim 8**, Mitani teaches a method step comprising separating nitrogen from ambient air onboard the aircraft thereby establishing a high concentration nitrogen supply; and

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dispensing high concentration nitrogen from the supply to a first susceptible, non habitable region of the aircraft where the high concentration nitrogen is reservoired thereby decreasing a capability for an atmosphere therein to support combustion (**see page 2 paragraph [0020] and [0021]**).

16. **As to claim 9**, Mitani teaches a method step comprising separating oxygen from ambient air onboard the aircraft thereby establishing a high concentration oxygen supply and dispensing high concentration oxygen from the supply to an occupant cabin of the aircraft thereby increasing a level of oxygen concentration within the cabin to a level greater than a naturally occurring partial pressure of oxygen at an experienced internal cabin pressure (**see page 2 paragraphs [0020] and [0021]**).

17. **As to claims 11-20**, Mitani teaches a method step wherein the non-habitable regions outside the fuel tank comprises at least one of cabling duct, a baggage compartment, a radio rack compartment and an electrical wiring compartment (**see paragraphs [0020], [0021] and response to arguments above**).

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

20. Claims **6, 7 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitani (US 2002/0162915) in view of Porlier (US 4,282,870).

21. **As to claims 6, 7 and 10**, Mitani discloses the applicant's invention as claimed with the exception of providing a method step of introducing the nitrogen rich air stored in non habitable areas of the aircraft into occupied, oxygen enriched areas. Porlier discloses a method step of introducing the nitrogen rich air stored in the non-habitable areas of the aircraft into the occupied, oxygen enriched areas. Therefore it would have been obvious to modify Mitani's invention by introducing the nitrogen rich air stored in the non habitable areas of the aircraft into the occupied, oxygen enriched areas as taught by Porlier instead discharging it out of the airplane as taught by Mitani in order to prevent lung atelectasis induced by positive "g" forces when breathing pure oxygen at lower altitudes.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIHIR PATEL whose telephone number is (571)272-4803. The examiner can normally be reached on 7:30 to 4:30 every other Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Bianco can be reached on (571) 272-4940. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nihir Patel/
Examiner, Art Unit 3772

/Patricia Bianco/

Supervisory Patent Examiner, Art Unit 3772

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